查询AP1307B-S供应商

AP1307

Two Coil Fan Motor Predriver

■ Features

- Compatible to a Hall element
- Operating voltage (V_{CC}) : 4V to 28V
- Lock shutdown and automatic restart
- Rotation detection (RD) output
- Output current I_O=70mA $_{(max)}$
- Operating temperature (T_{opr}) : -30ºC to +85ºC
- SOP8 package
- Include Thermal Shutdown circuit

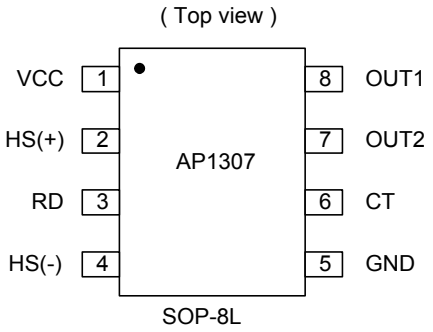
■ Application

- High voltage, high current brushless DC fan

■ General Description

The AP1307 fan motor predriver is suited for two-coil brush-less DC fan. All functions, including lock shutdown, automatic restart, rotation detection (RD), have been incorporated into one chip. When the motor is under lock condition, lock shutdown function turns off the output current. When the lock condition is removed, the IC automatically restarts and allows DC fan to run. In addition, the RD function is to detect the motor status.

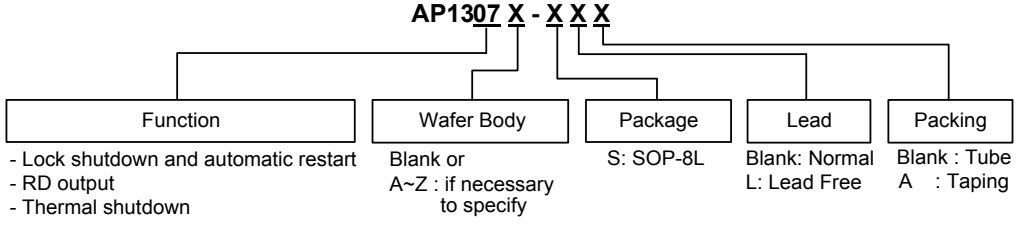
■ Pin Assignment



■ Pin Descriptions

Name	Description
VCC	Power input
HS(+)	Hall input
RD	Rotation detection
HS(-)	Hall input
GND	Ground
CT	Timing capacitor
OUT2	Driver output
OUT1	Driver output

■ Ordering Information



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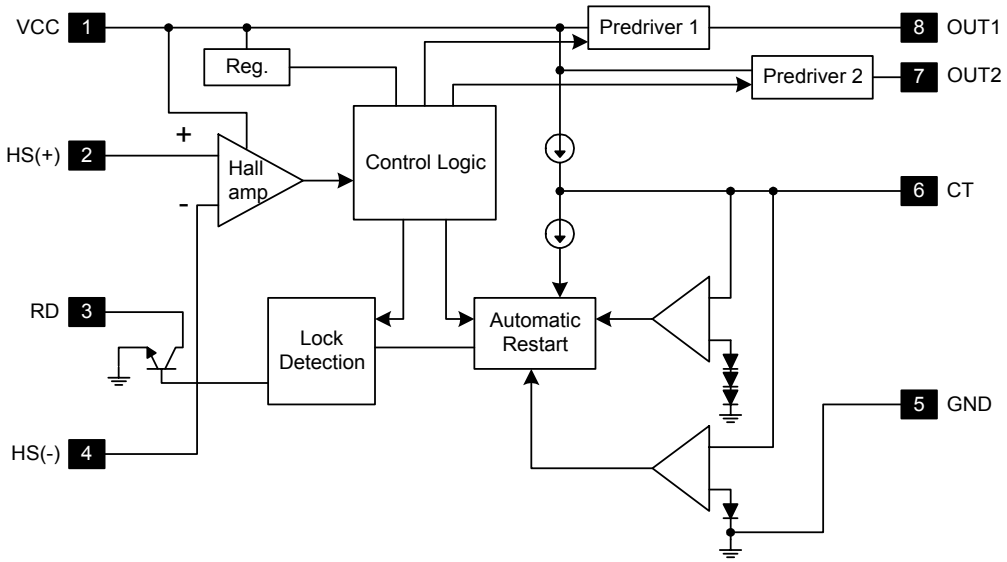
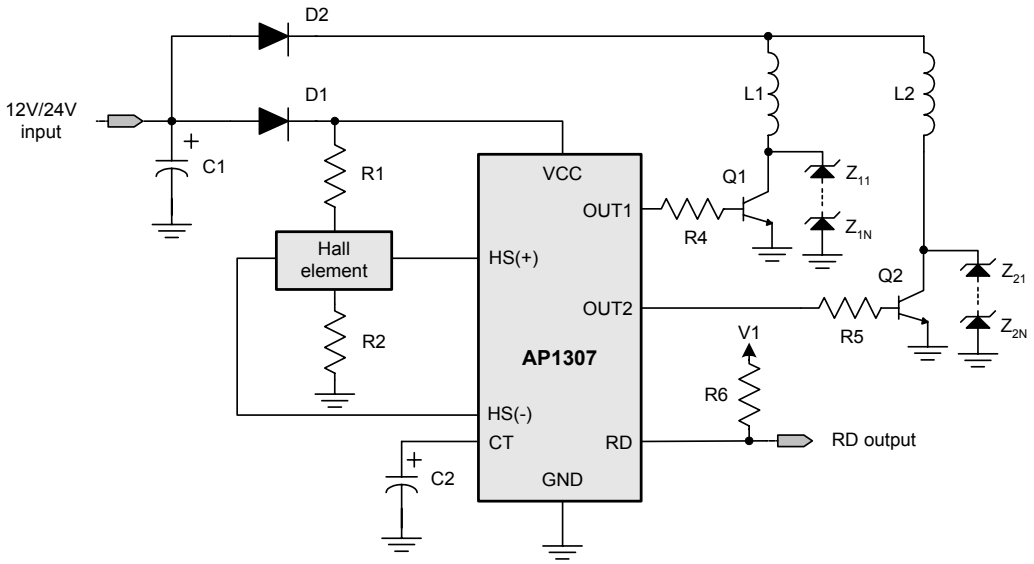
■ Block Diagram



■ Application Circuit



■ Absolute Maximum Ratings (T_A=25ºC)

Parameter	Symbol	Rating	Unit
Input voltage	V_{CC}	30	V
Output current	I_{OUT}	70	mA
Allowable power dissipation	P_D	550*(note1)	mW
Operating temperature	T_{OPR}	-30 to +85	ºC
Storage temperature	T_{STG}	-55 to +125	ºC
RD V_{CEO} D.C. Voltage	V_{CEO}	36	V

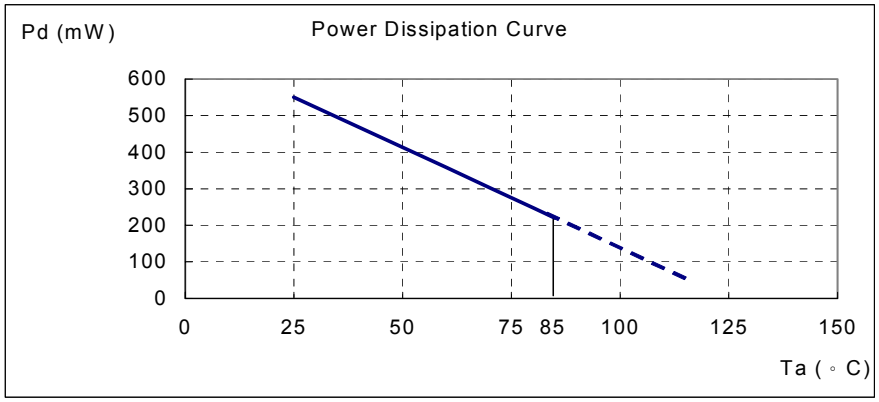
*note1 : Reduced by 5.5mW for each increase in Ta of 1ºC over 25 ºC

■ Electrical Characteristics (T_A=25ºC, V_{CC}=12V, unless otherwise noted)

Parameter	Symbol	Conditions	Rating			Unit
			Min.	Typ.	Max.	
Input voltage	V_{IN}		4	--	28	V
Hall input voltage	V_{BH}	Includes the amplitude of signal	1	--	V_{CC}-0.5	V
Supply current	I_{CC}	The output is off	--	2.8	5	mA
Hall amp input hysteresis (+)	V_{HYS}		3	--	15	mV
Charge current	I_{CHG}	V_{CT} = 1.5V	2	3.45	5.25	uA
Discharge current	I_{DHG}	V_{CT} = 1.5V	0.35	0.8	1.45	uA
Charge/discharge ratio	R_{CD}	I_{CHG}/I_{DCHG}	3	4.5	8	--
Clamp voltage	V_{CL}		2.2	2.6	3.0	V
Comparator voltage	V_{CP}		0.4	0.6	0.8	V
Output high level	V_{OH}	I_O = 10mA	10	10.5	--	V
RD pin output low	V_{RDL}	I_{RD} = 5mA	--	--	0.5	V
RD pin sink current capacity	I_{RD}	V_{RDL} = 2V	8	--	--	mA

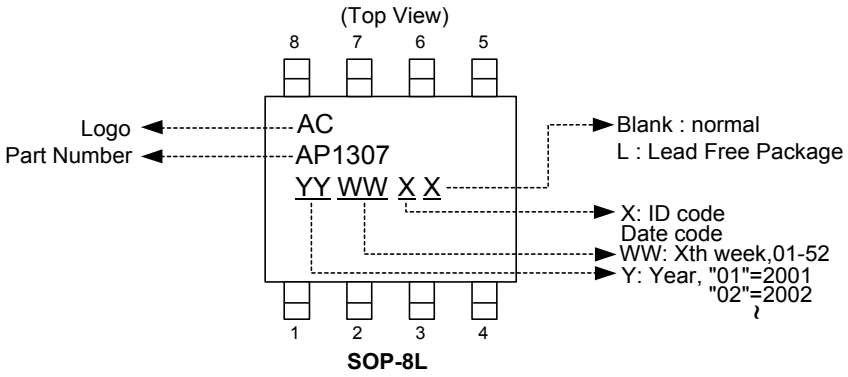
■ Performance Characteristics

Ta (°C)	25	50	60	70	80	85	90	95	100	105	110	115	120
Pd (mW)	550	413	358	303	248	220	193	165	138	110	83	55	28



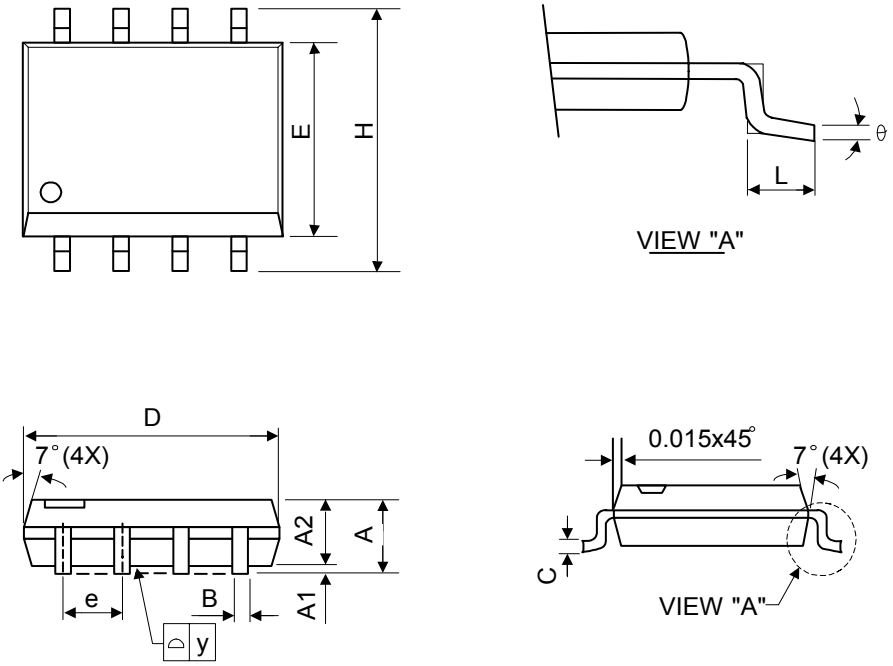
Note：SOP-8L package.

■ Marking Information



■ Package Information

Package Type: SOP-8L



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	1.40	1.60	1.75	0.055	0.063	0.069
A1	0.10	-	0.25	0.040	-	0.100
A2	1.30	1.45	1.50	0.051	0.057	0.059
B	0.33	0.41	0.51	0.013	0.016	0.020
C	0.19	0.20	0.25	0.0075	0.008	0.010
D	4.80	5.05	5.30	0.189	0.199	0.209
E	3.70	3.90	4.10	0.146	0.154	0.161
e	-	1.27	-	-	0.050	-
H	5.79	5.99	6.20	0.228	0.236	0.244
L	0.38	0.71	1.27	0.015	0.028	0.050
y	-	-	0.10	-	-	0.004
θ	0^{O}	-	8^{O}	0^{O}	-	8^{O}